NOTES ON THE TRANSFORMATIONAL ANALYSIS OF PHRASAL VERB STRUCTURES IN CONTEMPORARY ENGLISH

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The free forms consisting of at least two lesser free forms, one of which is a verb and the other a locative particle, offer us a wide scope for analysis. Arising from 10 basic kernel strings, we can classify more than 150 distinct transforms corresponding to one or more of the 10 strings. This output is the result of having applied a very limited set of equally basic transformations.

It is our purpose to point out only some aspects of the capacity of individual strings and their interrelations in terms of transformational analysis. We have deliberately illustrated the kernel strings with rather extensive structures. It should be clear from the very outset that not all the structures sharing the same type of sequence or even the same type of colligation with any of the kernel strings, are necessarily open to all the transformations that we have assigned to each string. Nevertheless, our kernel sentences are fairly representative of the structures of the language.

In the course of our analysis we have distinguished three main classes of verbs, V_{int} (intransitive) -the boy came up-, V_{tr} (transitive) -the girl brought in the pram-, V_{d} (auxiliary in non-progressive active interrogative clauses) -what book did the pupil give the teacher back?- , V (auxiliary component of a passive construction when the sequence is a discontinuous one) -what box was the ring put in?- , and two basic classes of locative particles, Prt_{u} (with the character of directional “goal-value”) as in the first three instances, and Prt_{p} (a mere connector between verb and object) as in the last instance given -the maid put the ring in the box-. We may have three different classes of objects whether in connexion with an element of the class “Prt_{p}” or not: O (non-relative object) -the baby the granny looked after-, (R) (optional relative object) -the ring (which/that) the maid put in the box-, I+O (interrogative composite object, consisting of an element of the class of “pronoun” and another element of the class of “noun” -what paper did the student hand to the invigilator?- , OS (optional agentive or transformed logical subject, normally at the end of the sentence) -the wall was jumped over (by the soldier)-. As we shall see, some
of the structures concerned possess more than one object or particle component. The subject is assumed to refer to the 3rd person singular and may be: S (ordinary not transformed subject) -the shop-steward applied to the director for the post-, R (relative subject) -the maid who put the ring in the box-, (S) (optional subject preceded by "for" in infinitive constructions) -wall for the soldier to jump over-, SO (object transformed into a subject) -the captain was looked up at by (by...), and I-S or I-SO (interrogative subject, consisting of the same elements as "I+O") -what cook took the jar down from the cupboard-, what champagne was poured out for the guest?, what guest was poured out the champagne?. For practical reasons, the form of the verb is assumed to be the past, except in infinitive constructions which are indicated by "to+ +V" -cook to take the jar down from the cupboard-. Where applicable, the passive could also be indicated after the main verbal form: V (Pass) -the piano was done aways with (by...). It should be noticed that we do not include the article in our formulations.

Our 10 basic strings answer to the following colligations, some forms of which we have already illustrated (table 1).

<table>
<thead>
<tr>
<th>String</th>
<th>Translation</th>
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<tbody>
<tr>
<td>A) [(S)+(V$<em>{pron}+$Prt$</em>{aux}$)] &quot;the boy came up&quot;</td>
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<tr>
<td>B) [(S)+(V$<em>{pron}+$Prt$</em>{aux}$)+O] &quot;the girl brought in the pram&quot;</td>
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<tr>
<td>C) [(S)+(V$<em>{pron}+$O$</em>{aux}$)+Prt$<em>{aux}$]+O$</em>{aux}$] &quot;the pupil gave the teacher back the book&quot;</td>
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<td>D) [(S)+(V$<em>{pron}+$O$</em>{aux}$)+Prt$_{aux}$] &quot;the granny looked after the baby&quot;</td>
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<td>E) [(S)+(V$<em>{pron}+$O$</em>{aux}$)+Prt$_{aux}$] &quot;the shop-steward applied to the director for the post&quot;</td>
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<td>F) F$<em>{aux}$ [(S)+(V$</em>{pron}+$O$<em>{aux}$)+Prt$</em>{aux}$]+O$<em>{aux}$] &quot;the maid put the ring in the box&quot;, F$</em>{aux}$ [(S)+(V$<em>{pron}+$O$</em>{aux}$)+Prt$_{aux}$] &quot;the student handed the paper to the invigilator&quot;</td>
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<tr>
<td>G) [(S)+(V$<em>{pron}+$O$</em>{aux}$)+Prt$<em>{aux}$]+O$</em>{aux}$] &quot;the shop-steward applied to the director for the post&quot;</td>
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<tr>
<td>H) [(S)+(V$<em>{pron}+$O$</em>{aux}$)+Prt$_{aux}$] &quot;the soldier looked up at the captain&quot;</td>
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<tr>
<td>I) [(S)+(V$<em>{pron}+$O$</em>{aux}$)+Prt$_{aux}$] &quot;the landlady did away with the piano&quot;</td>
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<tr>
<td>J) [(S)+(V$<em>{pron}+$O$</em>{aux}$)+Prt$<em>{aux}$] &quot;the cook took down the jar from the cupboard&quot;, J$</em>{aux}$ [(S)+(V$<em>{pron}+$O$</em>{aux}$)+Prt$_{aux}$] &quot;the waiter poured out the champagne for the guest&quot;</td>
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</table>

In connexion with these colligations a few remarks are needed. The distinction between "D" and "E" is based on the manifest degree of cohesion evidenced by certain transferred developments. The transferred "look after" = "care", as different from "look after" = "look afterwards", cannot be reduced to a non-prepositional structure within the same context -the granny looked-, as can be done with the structures of colligation E -the soldier jumped-. Similar

in the case with "H" and "I". In colligation "H" the physical action of "look up" can be reduced to "look" -the sailor looked-, but this could not be done with "the sailor looked up to the captain" -"respect", which corresponds to colligation "I". The sub-class 2 of "E" refers to those cases with "to" or "for" which can be transformed into non-prepositional structures by merely deleting the particle and changing the order of the objects. These non-prepositional structures are most relevant to our analysis, since they do not alter the basic underlying structure. These non-prepositional structures are the only non-phrasal transforms that we take into account. We do not deal with transforms such as "the pupil gave the teacher the book" from "the pupil gave the teacher back the book" or "the girl brought the book" from "the girl brought in the pram", etc., but we include in our transformational output the type "the student handed the invigilator the paper" from "the student handed the paper to the invigilator". The sub-class 2 of "J" refers to those cases which, while preserving the character of phrasal verb structures, can lose their prepositional particles "for" or "to" and assume a structure "O", whereby the prepositional O$_{aux}$ becomes O$_{aux}$ occupying an intervening position between V and Prt.$_{aux}$.

To the 10 basic strings we can apply two sets of transformations: a) the essentially non-componental group, where the number of basic elements in the kernel string remains unaltered except for the cases of optional agentive and optional or obligatory relative and interrogative adjectives -see below-, b) the componental group constituted by transforms which affect the primary nature of the phrasal verb structures, but never produce new structural types different from those of the 10 basic colligations, except in one single (T$_{aux}$) as we shall see.

The non-componental transforms are as follows:

T$_1$) Front-position of Prt$_{aux}$ or Prt$_{aux}$+O; T$_{aux}$ the subject follows the verb -up came the boy (A), T$_{aux}$ the subject precedes the verb -over the wall he jumped (B).-

T$_2$) Intervening object between V$_{aux}$ and Prt$_{aux}$ -the girl brought the pram in (B).-

T$_3$) Passive transformation. The verb is in the passive and the order "S+V+O" becomes "O+S+V" with the optional agentive at the end of the structure and preceded by the preposition "by" -the teacher was given back the book (by...)(C).-

T$_4$) Infinitive transformation. The verb is an infinitive and the subject

1 The order "Prt-V-S" may only occur when we have a non-pronominal subject, whereas the order "Prt-S-V" may occur either with a non-pronominal or with a pronominal subject, when it is so required by the balance of the sentence. The most common determining cause for the latter order is, however, the existence of a light pronoun as the subject of the verb.
verb objects -what pupil gave the teacher back the book? (C), what waiter poured out the champagne for the guest? (J).

The non-componential transforms may operate singly or in combination. Let us discuss first their individual application. $T_i$, $T_j$, and $T_k$ operate on all colligations, $T_t$ operates on all except "A", $T_s$ operates on all except "C", "D" and "I", and $T_v$ operates on "B", "Jt" and "Tq" only. As we have already indicated, we do not intend to give an exhaustive list of the various transforms we have examined in the course of our analysis. It will suffice to select one particular colligation and one particular transform, in order to illustrate two important aspects of analysis: a) the amplitude of colligations and b) the amplitude of transforms. The former refers to the number of structures a colligation can produce through the application of the various transforms, and the latter to the number of structures a particular transform can produce throughout the various colligations.

Choosing "B", for instance, the application of our set of not combined transforms yields the following output:

- $T_{tb} B$ 'in she brought the pram'
- $T_{tb} B$ 'the girl brought the pram in'
- $T_{tb} B$ 'the pram was brought in (by...)
- $T_{tb} B$ 'girl to bring in the pram'/'pram (for... to bring in'
- $T_{tb} B$ 'the girl who brought in the pram'/'the pram (R) the girl brought in'
- $T_{tb} B$ 'what pram did the girl bring in?'

This aspect of analysis is not only an adequate tool for the accurate description of colligations in transformational terms, but also a valuable help to distinguish the following pairs of colligations: "D"/"E", "H"/"Jt", "I"/"Jt", As far as "D"/"E" is concerned, we have no $T_{td} D$ ($Prt+O+V_{intr}$) against "over the wall jumped the soldier" ($T_{td} E$), no $T_{td} D$ ($Prt+O+V_{intr}$) against "over the wall he jumped" ($T_{td} E$), no $T_{td} D$ ($O+Prt+R+S+V_{intr}$) against "the wall over which the soldier jumped" ($T_{td} E$), and no $T_{td} D$ ($Prt+Prt+I+O+V_{intr}$) against "over what wall did the soldier jump?" ($T_{td} E$). Where we have no contrast is in $T_{td} D/E$ and $T_{td} D/E$. Similar is the case with "H", "Jt". We have no $T_{td} T$ ($Prt+Prt+O+S+V_{intr}$) against "what captain did he look up?" ($T_{td} T$), and similarly $T_{td} T$ against "what captain looked up at the captain" ($T_{td} T$), although we have the $T_{td} T$ counterparts of "the sailor who looked up at the captain" ($T_{td} T$) and "the captain (R) the sailor looked up at" ($T_{td} T$). In the same way, we have no $T_{td} T$ counterpart of "what captain did he look up?" ($T_{td} T$), but we have the $T_{td} T$ struc-

1 Notice that the structures of $T_{td} E$ introduced by a direct object permit the deletion of the preposition, without having to alter the word-order. In other cases it is possible to omit the preposition, but this entails a change in word-order: "the student handed the paper to the invigilator" ($T_{td} E$) "the student handed the invigilator the paper" (Non-Prepositional). Still in other cases it is not at all possible to transform "$Prt$" into a non-prepositional structure which may be regarded as wholly alterative: "the student handed the student the paper".

The optional relative may be either one of the variable forms "who/whom/which" or the invariable form "that", except when it is preceded by a preposition, in which case the only acceptable forms are the variable ones.

4 Cases with a "$Prt+Prt$" sequence may obviously crystallize in the type "at what captain did he look up?".

5 Cf. note 1.

6 Studia Anglica Posnaniensia vol. 4
T\textsubscript{J} J 'the landlady who did away with the piano' / 'the piano (R) the landlady did away with'.

T\textsubscript{P} J \textsubscript{1} 'the cook who took down the jar from the cupboard' / 'the jar (R) the cook took down from the cupboard' / 'the cupboard (R) the cook took down the jar from' / 'the cupboard from which the cook took down the jar' / 'the cupboard from which the cook took the jar'.

T\textsubscript{P} J \textsubscript{2} 'the waiter who poured out the champagne for the guest' / 'the champagne (R) the waiter poured out for the guest' / 'the guest (R) the waiter poured out the champagne for' / 'the guest for whom the waiter poured out the champagne'.

As can be seen, this aspect of analysis is complementary of the previous one. Both give us a two-dimension perspective of the transform mechanism in the structural system of the phrasal verb.

Now we can proceed to the amplitude of colligations and transforms from the point of view of the combined application of the latter, still in the non-componental sphere. Sets of combinations of non-componental transforms operate on all colligations except "A". Following our method, let us choose one colligation and one particular set of combined non-componental transforms. Taking, for instance, "C" as our colligation example, we get the following output:

T\textsubscript{P} + T\textsubscript{C} 'the teacher was given the book back (by...)

T\textsubscript{P} + T\textsubscript{C} 'pupil to give the teacher the book back'

T\textsubscript{P} + T\textsubscript{C} 'teacher to be given back the book (by...)

T\textsubscript{P} + T\textsubscript{C} + T\textsubscript{C} 'teacher to be given the book back (by...)

T\textsubscript{P} + T\textsubscript{C} 'the pupil who gave the teacher the book back'

T\textsubscript{P} + T\textsubscript{C} 'the teacher who was given back the book (by...)

T\textsubscript{P} + T\textsubscript{C} + T\textsubscript{C} 'the teacher who was given the book back (by...)

T\textsubscript{P} + T\textsubscript{C} 'what pupil gave the teacher the book back?'

T\textsubscript{P} + T\textsubscript{C} 'what teacher was given back the book (by...)?'

T\textsubscript{P} + T\textsubscript{C} + T\textsubscript{C} 'what teacher was given the book back?'

This analysis of colligational amplitude may reveal some interesting contrasts. We have no "J\textsubscript{2}" types corresponding to T\textsubscript{P} + T\textsubscript{I} + T\textsubscript{J} ("down from the cupboard the jar was taken''), to T\textsubscript{P} + T\textsubscript{J} ("the cupboard from which the jar was taken''), to T\textsubscript{P} + T\textsubscript{J} + T\textsubscript{J} ("down from which cupboard was the jar taken''), whereas all the other "J\textsubscript{1}" types have a "J\textsubscript{2}" counterpart: T\textsubscript{P} + T\textsubscript{J} ("for the guest the waiter poured the champagne out''), T\textsubscript{P} + T\textsubscript{J} ("for the guest the champagne was poured out (by...''), T\textsubscript{P} + T\textsubscript{J} + T\textsubscript{J} ("for the guest the champagne was poured out (by...)").
out for the guest' / 'the guest for whom the champagne was poured out -by...-'), etc. See below the two remaining sets involving $T_9$.

For our combined transform illustration we can use the interrogative sets with $T_9$, leaving out colligation "G" as we have been doing so far. The output is as follows:

$T_9 + T_9 R$  'what girl brought the pram in?'
$T_9 + T_9 S$  'what pram was brought in (by...)?'
$T_9 + T_9 T$  'what pupil gave the teacher the book back?'
$T_9 + T_9 C$  'what teacher was given back the book (by...)?'
$T_9 + T_9 C$  'what teacher was given back the book (by...)?'
$T_9 + T_9 D$  'what baby was looked after (by...)?'
$T_9 + T_9 E$  'what wall was jumped over (by...)?'
$T_9 + T_9 F$  'what ring was put in the box (by...)?' / 'what box was the ring put in (by...)?' / 'in what box was the ring put (by...)?'
$T_9 + T_9 F$  'what paper was handed to the invigilator (by...)?' / 'what invigilator was the paper handed to (by...)?' / 'to what invigilator was the paper handed (by...)?'
$T_9 + T_9 H$  'what captain was looked up at (by...)?'
$T_9 + T_9 I$  'what piano was done away with (by...)?'
$T_9 + T_9 J$  'down from what cupboard did the cook take the jar?'
$T_9 + T_9 J$  'what cook took the jar down from the cupboard?' / 'what cupboard did the cook take the jar down from?'
$T_9 + T_9 J$  'what jar was taken down from the cupboard (by...)?' / 'what cupboard was the jar taken down from (by...)?'
$T_9 + T_9 J$  'down from what cupboard was the jar taken down (by...)?' / 'down from what cupboard was the jar taken (by...)?'
$T_9 + T_9 J$  'what waiter poured the champagne out for the guest?' / 'what guest did the waiter pour the champagne out for?'
$T_9 + T_9 J$  'what guest did the waiter pour the champagne out for?'
$T_9 + T_9 J$  'what champagne was poured out for the guest (by...)?' / 'what guest was the champagne poured out for (by...)?'
$T_9 + T_9 J$  'for what guest was the champagne poured out (by...)?'

The previous illustrative samples are perhaps enough to make us aware of the immense wealth of current linguistic material yet unclassified and hardly studied as part of a complex structural system. Here we cannot exemplify nor discuss all the transforms which we have analysed for this study. However, it will not be difficult to work them out following our basic transformational set. The thesis that we defend is the need to delve systematically into the full potentiality of the contemporary language in the light of transformational analysis, which necessarily brings us to the problem of "grammaticalness".

By way of another illustrative sample, it would be interesting to know, for instance, why and how the following theoretically possible structures of colligation "G" -as a result of the application of our basic transforms- are or are not all grammatical and acceptable:

("G" structures produced by single non-componential transforms)

$T_9 G$  'to the director he applied for the post' / 'for the post he applied to the director' / 'the post was applied for by the director'

$T_9 G$  'the director was applied to for the post (by...)' / 'the post was applied for to the director (by...)' / 'the post was applied for by the director (by...)

$T_9 G$  'shop-steward to apply the director for the post' / 'shop-steward to apply for the post to the director' / 'shop-steward for the post to apply to the director' / 'shop-steward for the post to apply to the director' / 'shop-steward applied to the director for the post' / 'shop-steward to apply the director for the post'

$T_9 G$  'the shop-steward who applied for the post to the director' / 'the shop-steward who applied for the post to the director' / 'the shop-steward applied for the post to the director' / 'the post (R) the shop-steward applied for to the director' / 'the post (R) the shop-steward applied for to the director' / 'the post for which the shop-steward applied to the director' / 'the post for which the shop-steward applied to the director'

$T_9 G$  'what shop-steward applied to the director for the post' / 'what shop-steward applied for the post to the director' / 'what director did the shop-steward apply to for the post' / 'what director did the shop-steward apply to for the post' / 'what post did the shop-steward apply for to the director' / 'what post did the shop-steward apply for to the director' / 'what post did the shop-steward apply for to the director' / 'what post did the shop-steward apply for to the director'

("G" structures produced by combined non-componential transforms)

$T_9 + T_9 G$  'to the director the post was applied for (by...)' / 'for the post the director was applied to (by...)

$T_9 + T_9 G$  'director to be applied to for the post (by...)' / 'post to be applied for to the director (by...)

$T_9 + T_9 G$  'the director who was applied to for the post (by...)' / 'the director who was applied for to the post (by...)' / 'the director to whom the post was applied for (by...)' / 'the post which was applied for to the director (by...)' / 'the post which was applied to the director for (by...)' / 'the post for which the director was applied to (by...)

$T_9 + T_9 G$  'what director was applied to for the post (by...)?' / 'what director was the post applied for to (by...)?' / 'to what director was the post applied for (by...)?' / 'what post was applied for to the director (by...)?' / 'what post was applied for to the director (by...)

* Of ibid.
was the director applied to for (by...)?" / "for what post was the director applied to (by...)?".

Undoubtedly, the analyst is compelled to go out and do a certain amount of
field work, but the phrasal verb is still a very imperfectly explored area
as far as transformational analysis is concerned. How to check the limits of analysis
and how to verify the various outputs, is not always easy. Any
definite improvement, however, would certainly open new vistas. The achieve-
ment of analysis is in itself a valuable stimulus.

The two previous aspects of analysis we have been dealing with, are essen-
tially related to the capacity or amplitude of colligations and transformations.
The system of interrelations in the colligation set is primarily revealed to us
by the component set of transforms:

T_1): T_{1a}) Change of particle-class: Prta → Prta + O ("A" → "E" "the boy
came up the road"; "B" → "F" "the sailor brought the pram into the house").

T_{1b}) Change of particle-class: Prta → Prta + deletion of O ("E" → "A" "the
soldier jumped over"; "F" → "B" "the maid put in the ring").

T_{2a}) T_{2b}) Addition of the entire group "Prta + O" to a structure involving
a particle of the class "Prta"; Prta → Prta + Prta + O ("A" → "H" "the boy
came up to the road"; "B" → "J" "the girl brought the pram from the street").

T_{3a}) T_{3b}) Deletion of prepositional group in any of the two previous
sequences ("G" → "E" "the shop-steward applied to the director"); the shop-
steward applied to the post, "H" → "A" "the sailor looked up"; "J" → "B
"the cook took down the jar"; "K" → "B" "the waiter poured out the champ-
agne").

1 In the change of particle class we include the pairs "in/into" and "out/out of"
de note the fact that there is also a slight change of form. While these pairs certainly
contrast other pairs with exactly the same form such as "off (Prta)/off (Prta)", "down
(Prta)/down (Prta)", etc., they cannot be regarded as a free combination of two
independent particles such as "away from" or "out into".

8 Notice that this is valid provided that we effect the reverse of T_1, thereby changing
the order of "V-O-Prta" to "V-Prta-O".

The asterisk in this and further cases, means that the structure concerned does not
behave in all respects exactly like our kernel illustrations. So, "the girl brought
the pram for the boy" should be categorized as a type of "J" in so far as we have the variant
"the girl brought him in the pram" (of course T_{1a}J → C and not E) which is
missed in "J". But, at the same time, we can have a T_{1a}J introduced by Prta, which would
hardly have a T_{1a}J counterpart.

10 It should be noticed that the prepositional groups concerned in the operation
of T_2 always hold a close connexion with the sequence "V+Prta". They are not loose
prepositional groups of the type "he came up at noon" (A), "he brought it in without

T_{3a}) T_{3b}) Deletion of Prta in a structure involving a particle of the class
Prta ("H" → "E" "the soldier looked at the captain"; "J" → "F" "the cook
ooked the jar from the cupboard"; "K" → "F" "the waiter poured the champagne
for the guest").

T_{3b}) T_{3c}) Deletion of Prta in a structure involving a particle of the class
Prta ("J" → "C" change in word-order O_1 → O_2 occupying
an intervening position between V and Prta (the waiter poured the guest
out the champagne). T_{3d}) T_{3e}) Deletion of Prta in a structure with only one particle
of this class ("F" → Non-Prepositional change in word-order as in the
previous transform the "student handed the invigilator the paper").

T_{3f}) T_{3g}) Addition of Prta in a structure involving a particle of the class
Prta ("E" → "H" "the soldier jumped out over the wall"; "F" → "J" 
"the maid put away the ring in the box"; "K" → "J" "the student handed
the paper to the invigilator").

T_{3h}) Addition of Prta in a structure involving a particle of the class
Prta ("C" → "J" + the corresponding change in word-order, whereby
O_1 → O_2 "the pupil gave the book back to
the teacher"). T_{3i}) Addition of Prta in a structure involving no locative
particles: Non-Prepositional → "F" + the same change in word-order (the
student handed the paper to the invigilator).

It should be noticed that not all the previous interrelations are always
exact in the illustrations given. As we have already annotated, these cases
which do not exactly conform to the structures of our colligation set, are accom-
panied by an asterisk. The most conspicuous case is no doubt T_{1e}E → H*,
whose amplitude is minimal. While this H* admits of infinitive and relative
transformations of the type "wall to jump out over", the wall he jumped out over,
etc., we cannot effect the variant of T_{1e}H *O+Prta+R+S+V-inte+Prta+
along the lines of T_{1e}H "the wall over which the soldier jumped". The physical
order of realization, first "out of the window", then "over or onto the wall"
has a real counterpart in the obligatory relative construction "O+ (R) + S+
+ V-inte+Prta+Prta". Nevertheless, all the interrelations which we have
illustrated can be perfectly verified internally, that is, without adding any
new elements to the structures of our colligations or increasing the number
of colligation models. Since these transforms do not produce any new collig-
ation types, we could limit our operations to the production of the 12
illustrations of our colligation set. In a case like "the soldier jumped out over
the wall" (T_{1e}E → H*), we have added a new element "out" to our illustration
hurry" (B), "the soldier jumped out over the wall out of pride" (E); "he took it down from
fear" (B), "the waiter poured out the champagne at his request after the speech" (B),
etc.

11 Of note 2.

12 As we have pointed out in connexion with our colligation set, the non-preposi-
tional transformation of "F", is most relevant to our analysis, since the structures so
produced do not alter the basic underlying structure of "F".
of collocation “E” the soldier jumped over the wall” but, by so doing, we have created a type which we already had in our collocation “H”. This means that we could verify $T_{10E} \rightarrow H$, via $T_{10H} \rightarrow E$: “the sailor looked at the captain” ($T_{10H} \rightarrow E$) = “the sailor looked up at the captain” ($T_{10E} \rightarrow H$).

All the previous transformational interrelations are the result of the operation of componential transforms which do not affect the basic core of the underlying structures. There are grammatical and semantic modifications, but no radical semantic alteration. The modifications add or subtract, leaving intact the primary value of the phrasal verb. Perhaps the most distinctive modification, amongst those which we encounter in our collocation set, is that of $T_{7A}$: “the boy come up the road”, where there is a notion of contact in addition to that of relative verticality or horizontality (up the road = on the road). In other cases, the modification amounts to mere explicitness when not to actual explicitness as in $T_{6D} A \rightarrow F_{A}$ “the waiter poured the champagne for the guest” (pour = pour out). We could, however, illustrate transforms which actually alter the nature of the phrasal verb itself. Leaving aside the relevant contrast “come up the road/come up to the road” if we apply $T_{710}$ to the latter, we have cases like “the sailor looked up the captain”, whose connexion with “the sailor looked up at the captain” or with “the sailor looked at the captain” is null. Our first structure is undoubtedly a type “B masked” which could be produced by $T_{6D}$, but whose amplitude and semantic character do not coincide with those of our “B” illustration nor with those of the kernel “H”. The contrast is manifest if we compare the previous “B masked” with “H” and $T_{6D}$, and our model “B” with “T.B” and $T_{6D}$. The unit “bring in the pram” = “bring here/there from somewhere...”, and “look up at” = “look physically here/there...”, plus the explicit directions of “in” and “up” respectively, the transitive “look up + O” = “call on”, that is, it no longer constitutes an analysable unit in directional terms. We must remark that the previous transforms also illustrate basic meaning contrasts $V_{u} + P r_{u} + O$ / $V_{m} + P r_{m} + O$ (with the possibility of the passive turn), which may nonetheless belong in the same semantic field, as is the case with “play down” / “play down on”.

In addition to the formulation of the various collocational interrelations, we could talk here of two other types of amplitude: (a) as regards the shift from one collocation to another (shift amplitude of collocations), (b) as regards the power to effect such a shift in the collocations area of action of transforms. Both can be seen in table 2.

It should be borne in mind that “D” and “I” are not affected by the componential transforms because of their cohesiveness, which is the main reason why we have regarded them as collocational types different from “E” and “H” respectively. The shift amplitude of collocations may therefore be a useful guide in the analysis of the phrasal verb on syntactico-semantic grounds.

This shift amplitude is the exponent of a definite step forward in the process of analysis. The componential transforms may prolong, so to speak, the generative development of the structures produced by the non-componential transforms, beyond the collocational boundaries. In other words, the scope for analysis is considerably enlarged. Our collocations can produce not only a number of structures within the same collocational frame, but also other collocations. In order to illustrate the contribution of the componential transforms to the further analysis of the individual structures of the phrasal verb, let us take, for instance, the single non-componential $T_{4}$. This transform operates on all our 12 kernel illustrations, producing 31 distinct structures: $T_{4A}$ produces only 1 structure, $T_{4B}$, $T_{4C}$, $T_{4D}$, $T_{4E}$, $T_{4H}$ and $T_{4J}$ produce 2 structures each, $T_{4F_{1}}$, $T_{4F_{2}}$, $T_{4J_{1}}$, and $T_{4J_{2}}$ produce 3 structures each, and $T_{4G}$ produces 6 structures. If now we replace the collocations of every one of the previous transforms (B, C, D, etc.) by the componential transforms which operate on other collocations, we obtain 23 additional

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14 Of the directional $T_{temp}$ below.

14 Cf. our collocation set.
strings of transforms able to produce the same 31 distinct structures, either externally or internally, taking always into account the change of word-order in some of the transformations. So we have 12 $T_A$ plus 23 $T_{comp}$, that is, a total of 35 $T$, that can produce the same output. Table 3 illustrates in the first column the single non-componental $T_A$ operating on each colligation, followed by the number of structures so produced, and in the second column the componental transforms which can produce the same structures.

<table>
<thead>
<tr>
<th>$T_A$</th>
<th>$T_A + T_{comp}$</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>$T_A$</td>
<td>$T_{1A}, T_{2A}$</td>
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</tr>
<tr>
<td>$T_A$</td>
<td>$T_{1B}, T_{2B}$</td>
<td>3</td>
</tr>
<tr>
<td>$T_A$</td>
<td>$T_{1C}, T_{2C}$</td>
<td>2</td>
</tr>
<tr>
<td>$T_A$</td>
<td>$T_{1D}, T_{2D}$</td>
<td>3</td>
</tr>
<tr>
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<td>$T_{1E}, T_{2E}$</td>
<td>4</td>
</tr>
<tr>
<td>$T_A$</td>
<td>$T_{1F}, T_{2F}$</td>
<td>3</td>
</tr>
<tr>
<td>$T_A$</td>
<td>$T_{1G}, T_{2G}$</td>
<td>6</td>
</tr>
<tr>
<td>$T_A$</td>
<td>$T_{1H}, T_{2H}$</td>
<td>2</td>
</tr>
<tr>
<td>$T_A$</td>
<td>$T_{1I}, T_{2I}$</td>
<td>2</td>
</tr>
<tr>
<td>$T_A$</td>
<td>$T_{1J}, T_{2J}$</td>
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</tr>
<tr>
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</tr>
<tr>
<td>$T_A$</td>
<td>$T_{1L}, T_{2L}$</td>
<td>3</td>
</tr>
<tr>
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</tr>
<tr>
<td>$T_A$</td>
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<td>$T_{1Z}, T_{2Z}$</td>
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</table>

We could still put together the output of the single $T_A$ (once enlarged through the application of the componental replacement) and that of $T_A$ in combination with $T_B$ or $T_C$ (also taking into account the enlargement effected by the componental replacement). This yields a total of 75 strings, which gives us an adequate, although partial, perspective of the “enlarged” area of action of $T_A$. This perspective could be contrasted with those of other transforms so as to define further interrelations. As can be seen, in the sphere of the componental transforms we only operate with single sets. Their combination might make the panorama far more complex.

All we have said so far, presents no more than an imperfect cortical section, as it were, of the extraordinary complexity of the structural system of the phrasal verb. The diagram table 4 is perhaps more revealing:

Similarly, if we effect the componental replacement in strings of combined non-componental transforms, we increase considerably the number of strings able to produce the same structures. Taking only the combined non-componental transforms involving $T_A + T_B$ or $T_A$, we find 14 strings with a global output of 17 distinct structures. If we replace their respective colligations, that is, the colligations upon which they operate, by the componental transforms which can produce them — with the same reservations previously stated! — we discover 26 additional strings: 8 can replace “B” in $T_A + T_B$ and $T_A + T_C$, 6 can replace “J” in $T_A + T_D$ and $T_A + T_F$, 4 can replace “K” in $T_A + T_J$ and $T_A + T_K$, 3 can replace “L” in $T_A + T_E$, 3 can replace “M” in $T_A + T_F$, 2 can replace “N” in $T_A + T_G$, 2 can replace “O” in $T_A + T_H$, and 1 can replace “P” in $T_A + T_I$. The 26 additional strings plus the 14 not combined strings of $T_A + T_B$ or $T_A$ make up a total of 40 strings able to produce our 17 structures.

12 $T_A$ 31

We are now in a position to summarize the primary outcome of this investigation. An examination of the various interrelations between our 10 basic colligations and our 10 basic transforms, as revealed in more than 150 structures we have analysed — of which we have only given a few samples although systematically chosen — suggests that transformational analysis helps us establish in accurate terms the capacity of each individual kernel string and what it shares in common with others. We have not only limited greatly the scope of our illustrations but also the very material of our analysis. The number

11 See above in connection with the interrelations effected by our $T_{comp}$.
12 These are: $T_{1A}, T_{2A} + C, T_{1B}, T_{2B} + Non-Prep, T_{1C}, T_{2C} + Non-Prep$.
13 Cf. notes 15 and 16.
of basic colligations and transforms could be considerably increased. It is clear that not all the sequences with the same components or even with the same colligation have a parallel capacity. For this reason, this analysis also suggests that the elaboration of lexical rules whereby individual sequences can be categorized according to their transformational capacity, as well as individual forms according to their various degrees of interchangeability, is of the utmost importance in the description of English.

In addition to its use for actual syntactical description however, transformational analysis has other interesting applications. First of all it allows us to scientifically differentiate transforms having an identical sequence but belonging to different kernel strings, and different kernel strings possessing also an identical sequence. The following are some illustrations of ambiguous transforms: the boy to drive up (T_A/T_B), in “A” the boy drives up”, in “B” “the boy is driven up”; “the sort of person to look up (T_A/T_B), in “A” “that person would look upwards, would look up at something”, in “B” “that was the sort of person one should visit”; “the soldier to jump over (T_A/T_B), in “A” “the soldier jumps over”, in “B” “the soldier is jumped over”; “there was no road for him to come up (T_A/T_B), in “A” “he cannot come up any definite place because there is no road leading to it”, in “B” “he cannot come up any road since there is none”; “the girl to push in the pram (T_B/T_F), in “B” “the pram is pushed into a definite place by the girl”, in “F” “the girl is pushed in the pram”; “the steps to take the child down (T_B/T_F), in “B” “the child is taken down from a place to another thanks to the steps”, in “F” “the child is simply taken down the steps”; “that was a suitable van to bring those things in (T_B/T_F), in “B” “those things are meant to be brought into a definite place”, in “F” “those things are only said to be transported in a van”; “the scouts to march down the road (T_B/T_F), in “B” “the scouts march along the road” or “the scouts march to a place down the road”, in “F” “the scouts are marched along the road” or “the scouts are marched to a place down the road”, in “B” “the children” “they are made sure that the children were guided safely”, in “F” “the children were a partial obstacle to his vision” or “he was not deceived by the children”.

Amongst the ambiguous colligations that can be equally differentiated, we may distinguish three different types. The first type is that of different kernel strings sharing the same sequence, which are not due to the autonomous character of a prepositional object nor to lexicalization: he kept off the boys’ (B/E), in “B” “he did not let the boys come near”, in “E” “he did not go near the boys”; he parents looked after the children (D/E), in “D” “the parents look care of their children”, in “E” “the parents cast their sight upon their children as they passed by” or “the parents looked after their children had finished looking”; he is through with his car (H/I), in “H” “he passed the customs with his car”, in “I” “he finished repairing it” or “he has disposed of it”; he was going in for speech therapy (H/I), in “H” “he was going into the speech therapy unit for treatment”, in “I” “he was going to become a speech therapist”. The second type is that of different kernel strings due to the autonomous character of the prepositional object of one of the structures: he looked up at the Union (A/H), in “A” “he looked up when he reached the Union”, in “H” “he raised his eyes in order to glance at the Union”; he took down the jar from the cupboard (B/J), in “B” “he took down the jar usually kept in the cupboard”, in “J” “he lifted the jar down from the cupboard”; he brought up the butter from the Republic (B/J), in “B” “he brought up butter produced in the Republic”, in “J” “he brought the butter all the way up from the Republic”; the maid put away the ring in the box (B/J), in “B” “the maid put away the ring that was kept in, or attached to, the box”, in “J” “the maid put the ring away in a box”; somebody poured out the wine for the guests (B/J), in “B” “somebody poured out the wine that had been reserved for the guests”, in “J” “somebody poured the wine out so that the guests might drink it”. The third type is that of different kernel strings due to lexicalization: the lexicalized string has lost most of the grammatical flexibility of the other string: he threw up the sponge (B/B lex), in “B” “he actually threw up a sponge”, in “B lex” “he gave in”, “he brought the house down (B/B lex), in “B” “he brought down a model or toy house”, in “B lex” “he was tumultuously applauded by the theatre audience”; he put his foot in it (F/E lex), in “F” “he put his foot into something”, in “F lex” “he made a blunder”, “the chief sold them down the river (F/E lex), in “F” “the chief sold them while en route down the river” or “the chief sold them when they arrived at a place down the river”, in “F lex” “the chief simply betrayed them”.

Transformational analysis also provides a method that may be useful for semantic exploration, apart from the contrast of transforms with the same sequence belonging to different kernel strings and different kernel strings possessing the same sequence. The range of capacity of transforms obviously

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13 As can be seen, we are confronted here with a different kernel string due to the autonomous character of the prepositional object of the structure.
entails a meaning quotient whether of grammatical flexibility (T₁, T₂, T₃, T₄, T₅, and many others that we might have recourse to), or of possible emphasis and Aktionsart (T₁, T₂, etc.), or of explicitness and comprehension (T₆). But, more important, transformational analysis affords a good clue for unravelling empirically the complex nature of many phrasal verb structures in terms of referential meaning. This can be effected through the application of the directional T₆, that is, those which add or subtract a concrete directional modification or specification of the primary particle of the verb, without affecting the basic character of the structure. See our illustrations of T₆, T₇, T₈, T₉, and T₁₀. Some structures will admit of them all, both as componential and directional transforms, while others will hardly admit of them all in both capacities. This is what we may call "degrees of analysability", ranging from those structures which are extremely flexible in those terms to those which are hardly or not at all open to any modification or substitution. According to this, we face a great diversity of semantic types which can be adequately analysed. Since every structure is part of a larger context, either real or of situation, the verification of the degrees of analysability must be preceded by an examination of the contextual causes why this analysis may be prevented. This can be due to the epiphanic development of the type illustrated in "that boils down to mere negligence" (I), where the action is not physically performed, corresponding instead to an image on a figurative level. Or it may result from a synecdochic development of the type illustrated in "he brought his brother down"-killed (B), where the action can be physically performed but represents only a partial aspect within the frame "cause-effect", implying more than is actually said. This type of transference may, of course, be also the basis of a metaphoric development. This is the case with "look out for your soul" (I) against the purely synecdochic "look out" (A) in a physical context with the meaning of "beare". We can find out whether any of these two phenomena is responsible for the lack of analysability in certain structures, by simply reducing the environment to a literal or physical situation. In many cases this will render a perfectly analysable structure in terms of the directional T₆. There are however two other reasons why the structures of the phrasal verb may not admit of this analysis. In the case of propositional constructions, this may be due to the highly grammaticalized use of the preposition in cases like "believe in", "apply to" "buy O for", etc. This type of structures constitutes a class apart and can hardly be analysed in any directional terms at all. But there are other circumstances where the particle is far from reaching such a high degree of grammaticalization, particularly in structures involving a primary particle of the class Prts. In these cases we normally have a certain lack of directional agreement between particle and verb, that is, we have a non-directional verb + a locative particle, but this also happens in analysable structures. This second type of structures is illustrated in cases like "find out" (A), "drink down" (B), "preach at" (E), "work out for" (Jₚ), etc., which do not admit of any directional completion or replacement. These structures can nonetheless be analysed in terms of their underlying structures. These are wider frames within which not analysable structures can acquire the analytic flexibility of the great bulk of the structures of the language. In units with a primary particle of the class Prts, which constitute the most interesting portion of not analysable structures in terms of our directional T₆, the formulation of an underlying structure must necessarily revolve around an additional directional verb (D) in connexion with which, Prts admits of the concrete specifications of our directional T₆. So we could formulate the following underlying structure for "drink down" (B): [(V₄+O)+((OS+D₄)+Prt₈)/(OS+D₄)+Prt₈ by V₆+O)], which roughly translated into ordinary terms means: 'he drinks it and it goes down' / 'it goes down by him/his drinking it'. That of "drink up" (also B), would be: [(V₅+O by D₅+O+Prt₉)/(V₄+O+by D₄+Prt₈) + (D₄+O+Prt₈ + V₅+O) + (D₅+O+Prt₉ + V₅+O)], that is, 'he drinks it by taking it up' / 'he drinks it by taking up the glass' / 'he takes it up and drinks it' / 'he takes up the glass and drinks' ('the content' or "from it"). It should be noticed that if we apply stricter criteria of analysis, such as the possibility of replacing the particle of the class Prts by the generic adverbs 'here/there' or by the formations in "-ward", then many analysable structures in terms of our directional T₆ will undoubtedly turn close, with only one way open to analysis: their underlying structures. This would be the case with "eat out", "die away", etc. These structures admit of T₆ but not of a direct replacement of the particles by 'here/there'. This would nonetheless be possible with "come out" or "run up".

Finally, the directional componential transforms lead us to the ultimate source of phrasal verb structures, that is, the dimensional universe. But this is not the occasion to delve into the connexion between the two structural worlds.

It is hoped that the ideas we have expressed in this study will stimulate further discussion towards the accurate description of this exciting microcosmos, in the light of transformational analysis.

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⁹⁹ See below.

⁶⁰ Notice the semantic contrast with more grammaticalized use of "to" in "preach to".